HOSTAFORM® EC140XF

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Hostaform® EC140XF is a conductive ESD grade of acetal copolymer for applications requiring dissipation of static build-up. Hostaform® EC140XF has an improved resistance to aggressive fuel blends.

Product information

Resin Identification	POM-CD		ISO 1043
Part Marking Code	>POM-CD<		ISO 11469

Rheological properties

Melt volume-flow rate	4	cm^3/10min	ISO 1133
Temperature	374	°F	
Load	4.76	lb	
Melt mass-flow rate	4.5	g/10min	ISO 1133
Melt mass-flow rate, Temperature	374	°F	
Melt mass-flow rate, Load	4.76	lb	
Molding shrinkage, parallel	2.1	%	ISO 294-4, 2577
Molding shrinkage, normal	1.9	%	ISO 294-4, 2577

Typical mechanical properties

Tensile modulus	392000	psi	ISO 527-1/-2
Tensile stress at yield, 50mm/min	7700	psi	ISO 527-1/-2
Tensile strain at yield, 50mm/min	4.7	%	ISO 527-1/-2
Tensile strain at break, 50mm/min	12	%	ISO 527-1/-2
Flexural modulus	384000	psi	ISO 178
Flexural stress at 3.5%	10200	psi	ISO 178
Charpy impact strength, 23°C	33.3	$ftlb/in^2$	ISO 179/1eU
Charpy notched impact strength, 23°C	1.9	$ftlb/in^2$	ISO 179/1eA
Izod notched impact strength, 23°C	2.14	$ftlb/in^2$	ISO 180/1A
Hardness, Rockwell, M-scale	75		ISO 2039-2
Poisson's ratio	0.445		

Thermal properties

Melting temperature, 10°C/min	331	°F	ISO 11357-1/-3
Temperature of deflection under load, 1.8 MPa	196	°F	ISO 75-1/-2
Temperature of deflection under load, 0.45 MPa	306	°F	ISO 75-1/-2
Coefficient of linear thermal expansion (CLTE), parallel	0.56	E-4/°F	ISO 11359-1/-2
Coefficient of linear thermal expansion (CLTE), normal	0.611	E-4/°F	ISO 11359-1/-2

Electrical properties

Surface resistivity	1000	Ohm	IEC 62631-3-2
Resistivity, conductive plastics	1	Ohm.m	ISO 3915

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Physical/Other properties

Density	0.0513	lb/in³	ISO 1183

Injection

Drying Recommended	yes	
Drying Temperature	176	°F
Drying Time, Dehumidified Dryer	3 - 4	h
Processing Moisture Content	≤0.2	%
Melt Temperature Optimum	392	°F
Min. melt temperature	374	°F
Max. melt temperature	410	°F
Max. screw tangential speed	≤0.3	m/s
Mold Temperature Optimum	212	°F
Min. mold temperature	176	°F
Max. mold temperature	248	°F
Hold pressure range	8700 - 17400	psi
Hold Pressure Time (h is the max. wall thickness of the part in mm)	2h²-3	s
Back pressure	290	psi
Ejection temperature	268	°F

Automotive

OEM	STANDARD	ADDITIONAL INFORMATION
Bosch	N28 BN22-X005	Black
Continental	TST N 055 54.35	
General Motors	GMW16278P-POM-Type C2	Black
Honda	Fuel spec	
Mercedes-Benz		Fuel (CD3068 BLK)
Mercedes-Benz	DBL5405-07-POM-C	Electroconductive: Polyoxymethylene Copolymer with Electroconductive Properties
Renault	No spec listed	
Stellantis	MS.50210 / POM-C.2000F.3C.EC	Technical Black;CPN5291 BLACK;61/208E-206M/H507G/C1/12, 01378_20_03973
Stellantis - Chrysler	MS.50095 / CPN-5291	Black
VW Group	TL 526 36B	

Characteristics

Processing	Injection Molding
Special characteristics	Increased electrical conductivity, Static dissipative

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Additional information

Injection molding

Preprocessing

Drying is highly recommended for conductive carbon based ESD grades of Hostaform®. While POM is not degraded by moisture during processing, excessive moisture can lead to splay (silver streaking) in molded parts. For better uniformity in molding especially when using regrind or material that has been stored in containers open to the atmosphere, recommended drying conditions are 80 C (180 F) for 3 - 4 hours. Desiccant hopper dryers are not required. Maximum water content = 0.20%

Processing

Standard reciprocating screw injection molding machines with a high compression screw (minimum 3:1 and preferably 4:1) and low back pressure (0.35 Mpa/50 PSI) are favored. Using a low compression screw (I.E. general purpose 2:1 compression ratio) can result in unmelted particles and poor melt homogeneity. Using a high back pressure to make up for a low compression ratio may lead to excessive shear heating and deterioration of the Hostaform® material.

Melt Temperature: Preferred range 182-199 C (360-390 F). Melt temperature should never exceed 230 C (450 F).
Mold Surface Temperature: Preferred range 82-93 C (180-200 F) especially with wall thickness less than 1.5 mm (0.060 in.). May require mold temperature as high as 120 C (250 F) to reproduce mold surface or to assure minimal molded in stress. Wall thickness greater than 3mm (1/8 in.) may use a cooler (65 C/150 F) mold surface temperature and wall thickness over 6mm (1/4 in.) may use a cold mold surface down to 25 C (80 F). In general, mold surface temperatures lower than 82 C (180 F) may produce a hazy surface or a surface with flow lines, pits and other included defects.

Postprocessing

Postprocessing conditioning and moisturizing are not required. It may be necessary to fixture large or complicated parts with varying wall thickness to prevent warpage while cooling to ambient temperature.

Processing Notes

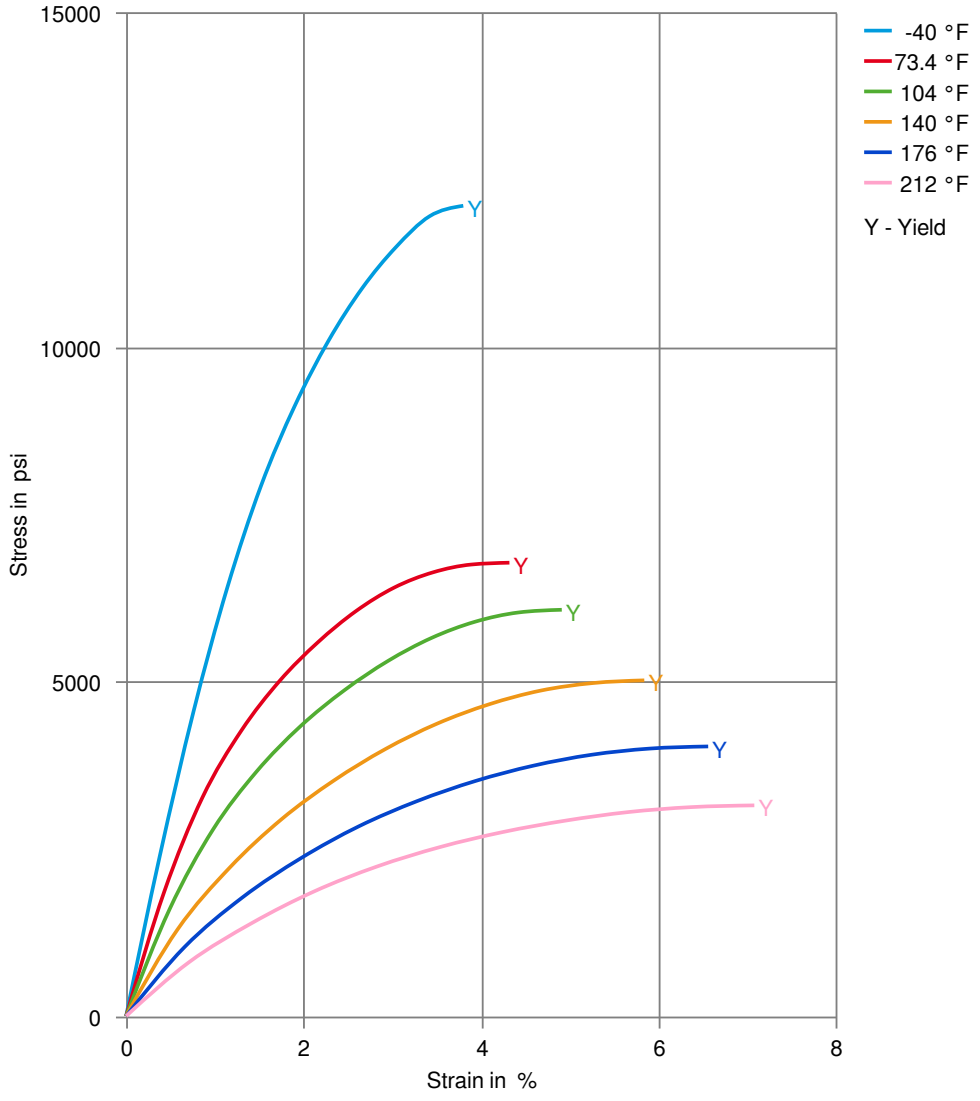
Storage

Predrying for conductive carbon based ESD grades is required.

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Stress-strain

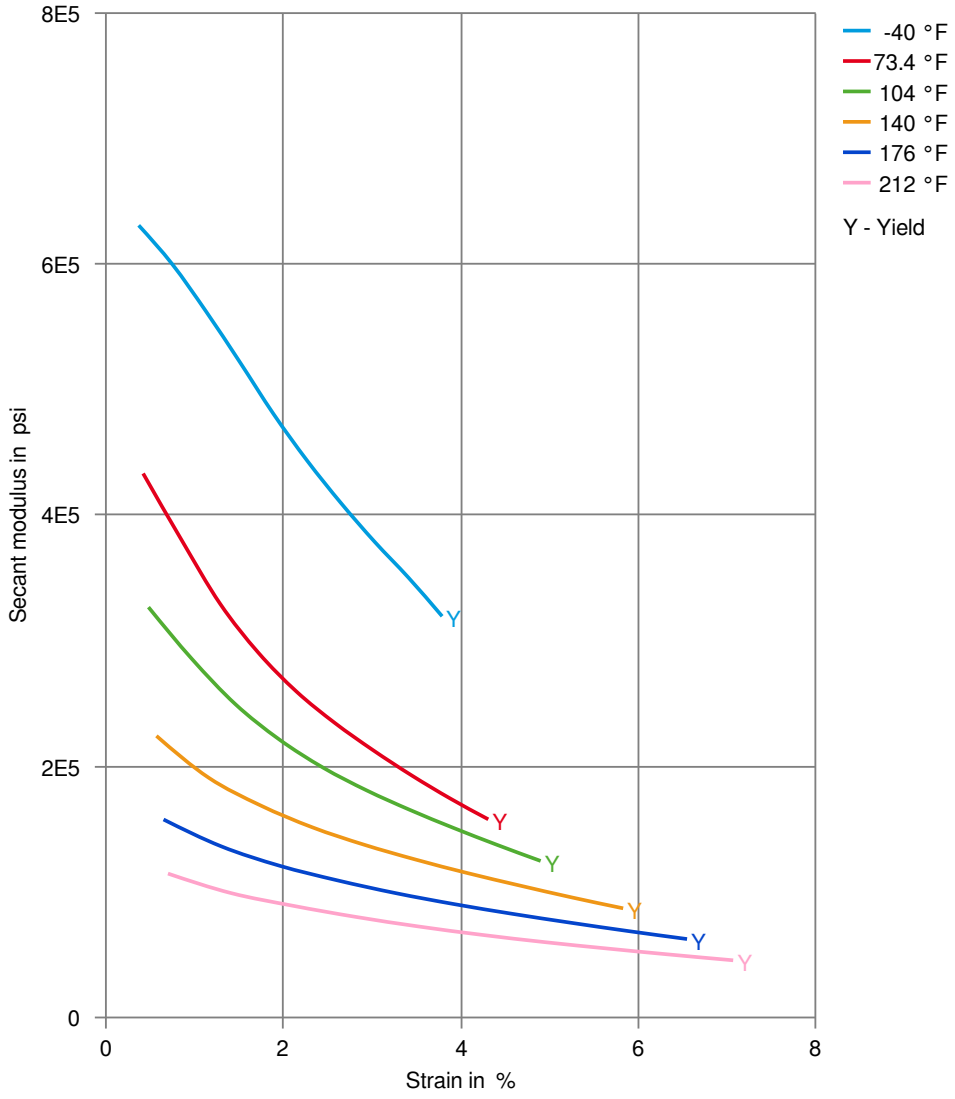


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Secant modulus-strain



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Chemical Media Resistance

Standard Fuels

- ✔ ISO 1817 Liquid 1 - E5, 60°C
- ✔ ISO 1817 Liquid 2 - M15E4, 60°C
- ✔ ISO 1817 Liquid 3 - M3E7, 60°C
- ✔ ISO 1817 Liquid 4 - M15, 60°C
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C), 23°C
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4), 23°C

Symbols used:

✔ possibly resistant
Defined as: Supplier has sufficient indication that contact with chemical can be potentially accepted under the intended use conditions and expected service life. Criteria for assessment have to be indicated (e.g. surface aspect, volume change, property change).

✘ not recommended - see explanation
Defined as: Not recommended for general use. However, short-term exposure under certain restricted conditions could be acceptable (e.g. fast cleaning with thorough rinsing, spills, wiping, vapor exposure).

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NOTICE TO USERS: Values shown are based on testing of laboratory test specimens and represent data that fall within the standard range of properties for natural material. These values alone do not represent a sufficient basis for any part design and are not intended for use in establishing maximum, minimum, or ranges of values for specification purposes. Colorants or other additives may cause significant variations in data values. Properties of molded parts can be influenced by a wide variety of factors including, but not limited to, material selection, additives, part design, processing conditions and environmental exposure. Other than those products expressly identified as medical grade (including by MT® product designation or otherwise), Celanese's products are not intended for use in medical or dental implants. Regardless of any such product designation, any determination of the suitability of a particular material and part design for any use contemplated by the users and the manner of such use is the sole responsibility of the users, who must assure themselves that the material as subsequently processed meets the needs of their particular product or use. To the best of our knowledge, the information contained in this publication is accurate; however, we do not assume any liability whatsoever for the accuracy and completeness of such information. The information contained in this publication should not be construed as a promise or guarantee of specific properties of our products. It is the sole responsibility of the users to investigate whether any existing patents are infringed by the use of the materials mentioned in this publication. Moreover, there is a need to reduce human exposure to many materials to the lowest practical limits in view of possible adverse effects. To the extent that any hazards may have been mentioned in this publication, we neither suggest nor guarantee that such hazards are the only ones that exist. We recommend that persons intending to rely on any recommendation or to use any equipment, processing technique or material mentioned in this publication should satisfy themselves that they can meet all applicable safety and health standards. We strongly recommend that users seek and adhere to the manufacturer's current instructions for handling each material they use, and entrust the handling of such material to adequately trained personnel only. Please call the telephone numbers listed for additional technical information. Call Customer Services for the appropriate Materials Safety Data Sheets (MSDS) before attempting to process our products.
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